

**REMARKS**

Upon entry of the amendments, claims 94-113 are currently pending in the present application. Claim 105 has been amended in order to provide proper antecedent basis for the heated alcoholic solvent claimed therein. Applicants submit that the amendments do not introduce any new matter within the meaning of 35 U.S.C. §132. Accordingly, entry of the amendments is respectfully requested.

Claim 105 currently stands rejected under 35 U.S.C. 112, second paragraph as being indefinite for containing improper antecedent basis for a limitation found therein. Claims 94-113 stand rejected under 35 U.S.C. 103(a) as being obvious over Briand (FR 2,657,012) in view of Winget (U.S. Patent No. 5,767,095).

The amendment to claim 105 and the following remarks are made in anticipation that they place the application and claims in condition for allowance.

**1. Interview Summary**

As an initial matter, Applicants would like to thank the esteemed Examiner and the Supervisory Primary Examiner for taking the time on October 12, 2004, to discuss this case with Applicants' representatives, Gérard Portal and Jerald Meyer. During the interview, Applicants' representatives expressed the position that the claims are not rendered obvious by the prior art, and in particular that there is no motivation to combine the references in an attempt to achieve the presently claimed invention. The arguments put forth during the interview are reiterated herein for

further consideration by the Examiner. Applicants again thank the Examiner and the SPE for their time to discuss this application.

### **3. Rejection of Under 35 U.S.C. §103(a)**

Claims 94-113 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Briand (English Translation of FR 2,657,012) in view of Winget, U.S. Patent No. 5,767,095, for the reasons set forth in the Office Action.

### **RESPONSE**

Applicants respectfully traverse this rejection and request reconsideration and withdrawal thereof.

The reference of record, the Briand reference and the Winget patent, do not teach or suggest Applicants' inventive subject matter as a whole, as recited in the claims. Further, there is no teaching, motivation or suggestion in the references which would lead the ordinary skilled artisan to modify the references to derive the subject matter as defined in the amended claims.

The U.S. Supreme Court in *Graham v. John Deere Co.*, 148 U.S.P.Q. 459 (1966) held that non-obviousness was determined under § 103 by (1) determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; (3) resolving the level of ordinary skill in the

art; and, (4) inquiring as to any objective evidence of nonobviousness.

To establish a *prima facie* case, the PTO must satisfy three requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Second, the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209, 18 U.S.P.Q.2d 1016, 1023 (Fed. Cir. 1991). Lastly, the prior art reference must teach or suggest all the limitations of the claims. *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

**a. The present invention**

Claim 94 is an independent claim directed to a method for **promoting intercellular communication** of skin cells, comprising the application, to the appropriate skin areas of a person in need thereof, of an effective amount of at least one **lipid** extract of the alga *Skeletonema*. The remaining claims depend from claim 94

and necessarily contain all of the limitations found therein. Thus, if claim 94 is not obvious over the combination of references, then neither are the dependent claims obvious over the references.

**b. Cited references**

Briand discloses the use of **hydroalcoholic** microscopic algal extracts for the preparation of pharmaceutical, cosmetic, feed or agricultural compositions.

Winget discloses pharmaceutical compositions **of anti-inflammatory** microalgal lipid preparations containing monogalactosyl dieicosapentaenoyl glycerol and processes for making said preparations.

**c. Differences between present invention and the cited references.**

Applicants respectfully submit that none of the references, either alone or in combination, teach, or suggest, a means for promoting interconnection of skin cells, or intercellular communication of skin cells, as is presently claimed. Further, there is no motivation to combine the reference in an attempt to achieve the presently claimed subject matter.

As indicated above, the present inventive subject matter as claimed in claim 94 is directed to a method of **promoting**

**intercellular communication** of skin cells, comprising the application, to the appropriate skin areas of **a person in need thereof**, of an effective amount of at least one **lipid** extract of the alga Skeletonema. Thus, it is important in the present claims that the method is directed to promoting intercellular communication to a person in need thereof. Also, the effective component administered to the person in need of promotion of intercellular communication is at least one **lipid** extract of the alga Skeletonema.

Briand, on the other hand, does not disclose the presence of a **lipid** extract of the alga Skeletonema. As can be seen from the English translation, Briand teaches the use of **hydroalcoholic extracts** for scavenging free radicals. Applicants submit that the extract **and** the mechanism taught by Briand are wholly divergent from the presently claimed subject matter.

As an initial matter, Applicants discussed the differences between the Briand hydroalcoholic extracts and the claimed lipid extracts during the interview. However, to reiterate those points, Applicants submit that the extracts obtained by Briand's hydroalcoholic extraction process are very different from the lipid extracts claimed in claim 94. In particular, the hydroalcoholic extract of Briand contains a majority of hydrophilic constituents, while the lipid extract as claimed contains a majority of

lipophilic constituents. By their very nature, the hydrophilic constituents of Briand are different than the lipophilic constituents of the lipid extract of claim 94.

Further, Briand indicates that the hydroalcoholic extracts have an activity against free radicals. In contrast, the claimed lipid extracts are useful in promoting intercellular communication. Applicants submit that free radical scavenging is very different than promoting intercellular communication. Free radical scavenging involves the extract removing free radical (e.g. superoxide radicals) that are damaging to cells. Promoting intercellular communication, on the other hand, involves restoring gap junctions between cells in order that chemicals and signals may pass from one cell to another via the gap junction. By enhancing the gap junction communication between cells, the claimed lipid extracts are **acting on the cells themselves**, and not on **free radicals** that may be present around the cells. Thus, Applicants submit that the claimed mechanism is very different than the mechanism disclosed in Briand.

Therefore, Applicants respectfully submit that Briand fails to disclose **the use of lipid extracts of alga Skelonema for promoting intercellular communication**.

Turning now to Winget, the Examiner cites Winget for teaching anti-inflammatory compositions of microalgal extracts. However,

Applicants respectfully submit that there is no motivation to combine Winget with Briand in an attempt to achieve the presently claimed subject matter.

The Examiner admits that Winget is directed to **anti-inflammatory** compounds. In particular, Winget is concerned with the amount of monogalatosyldiacylglycerides and eicosapentaenoic acid (MGDG-EPA) found in the microalgal extracts used as the anti-inflammatory agents. Winget puts forth that the amount of MGDG-EPA is very important to the anti-inflammatory properties of the microalgal extracts. To that end, Winget lists the following as preferred algae to be used in the extracts (i.e., algae which contain the necessary MGDG-EPA levels to attain the anti-inflammatory properties): algae selected from the genera consisting of Chlorella, Chaetoceros, Cyclotella, Isocarysis, Nannochloropsis, Nitzschia and Phaeodactylum (col. 4, lines 63-65). While Winget does list Skeletonema in column 10 as a **possible** alga to be used in their composition, the listing of Skeletonema is in a "laundry list" of algae, and that Winget is very clearly focused on the preferred genera listed above.

Thus, Applicants respectfully submit that Winget does not apply to the present claims for the following reasons: 1) Winget is directed to anti-inflammation and the present claims are directed to the promotion of intercellular communication; 2) Winget is

concerned with the MDGD-EPA present in the algal extracts since the MGDG-EPA concentration is important for the anti-inflammatory properties; and 3) Skeletonema is mentioned only in a long list of **possible** algae, and Winget is concerned with the preferred algae listed above.

Further, Applicants submit that there is no motivation or teaching to combine the references. In particular, as indicated above, Briand is concerned with free radical scavenging, while Winget is directed to anti-inflammation. Applicants submit that one of skill in the art of free radical scavenging would **not** look to a reference concerned with anti-inflammatories to substitute constituents within the patent, especially considering the differences in extraction techniques disclosed in the various references. Applicants also submit that treatment of aging skin via free radical scavenging has nothing to do with a pharmaceutical composition used for treating inflammation, and thus there is no motivation to combine the references.

Accordingly, Applicants submit that there is no motivation or teaching to combine the references, and as such, claims 94-113 are not obvious over the combination of references. Applicants, therefore, respectfully request reconsideration and withdrawal the outstanding rejection.



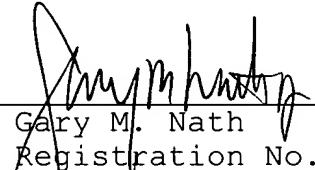
**CONCLUSION**

Based upon the above amendments and remarks, the presently claimed subject matter is believed to be novel and patentably distinguishable over the references of record. The Examiner is therefore respectfully requested to reconsider and withdraw the objection and rejections and allow all presently pending claims. Favorable action with an early allowance of the claims pending in this application is earnestly solicited.

Respectfully submitted,

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